

LIBF

BSc (Hons) Artificial Intelligence

Programme Specification



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General Information

UCAS Code	Award	Programme Title	Expected Duration	Study Mode
N/A	BSc (Hons)	Artificial Intelligence	3 years 4 years 6 years	Full-time Part-time 1 Part-time 2
		Programme Code UK-LIBF-BAAI		
	Exit Awards	<ul style="list-style-type: none"> • BSc (non-Hons) • Diploma of Higher Education • Certificate of Higher Education 		

Credit Count	360 FHEQ credits
Awarding Institution	The London Institute of Banking & Finance
Teaching Institution	The London Institute of Banking & Finance
Delivery Modes	<ul style="list-style-type: none"> • Face-to-face • Blended • Online – Synchronous • Online – Asynchronous

Date of original production	October 2023	Date of current version	October 2023
Record of modifications			

Programme Overview

Programme Summary

As the world continues to embrace the digital era, Artificial Intelligence (AI) has become a key driver in various sectors, from healthcare to finance, and from manufacturing to entertainment. The demand for AI specialists who can effectively develop, implement, and manage AI systems is growing at an unprecedented rate.

The BSc (Hons) Artificial Intelligence programme aims to equip you with a strong theoretical foundation and practical skills needed to thrive in this dynamic field. The programme provides a comprehensive understanding of the fundamental concepts and principles of AI to prepare you for a promising career and to contribute meaningfully to the ongoing development and application of AI in various sectors of society.

The programme covers a range of topics giving you a well-rounded understanding of AI, from foundational skills, such as mathematics, statistics, and programming, to cutting-edge technologies, such as machine learning, neural networks, and natural language processing. Additionally, the programme includes a project which allows you to explore the fascinating field of generative AI. The programme also offers a selection of electives that allow you to delve deeper into specific areas of interest, such as cloud computing, data analysis, and self-driving vehicles.

Programme Aims

The BSc (Hons) Artificial Intelligence programme aims to:

- provide you with a robust foundation in artificial intelligence, including its concepts, theories, principles, as well as practical skills in AI programming and machine learning;
- equip you with the knowledge and skills necessary to analyse complex problems in AI and design appropriate solutions using AI techniques and tools;
- enable you to develop critical thinking and problem-solving skills and apply these in theoretical and practical contexts within the field of artificial intelligence;
- enhance your awareness of the social, ethical, and legal considerations in artificial intelligence, including implications in data privacy, bias, and automation;
- provide you with a holistic understanding of artificial intelligence through a wide range of elective modules giving insights into industry-relevant fields and areas

of practical application of AI, such as robotics, natural language processing, and data science;

- prepare you for the future of work by fostering adaptability and lifelong learning, enabling you to keep pace with rapidly evolving AI technologies and their applications in various sectors; and
- encourage you to contribute to the advancement of AI technology, with a focus on sustainable and ethical AI solutions that address global challenges and drive societal progress.

Employability & Graduate Outcomes

Graduates of this programme are likely to pursue careers in a number of areas in the IT sector and AI-related fields, including machine learning, software development, and data analysis. This programme of study supports graduates in developing the following employability skills:

- digital and technical literacy
- critical thinking and problem-solving skills
- communication and collaboration skills
- numerical and analytical skills
- professional responsibility and ethical awareness

Intended Learning Outcomes of the Programme

This programme has been developed in accordance with the QAA Subject Benchmark Statement for Bachelor's Degrees in Computing (2022).

Please note: The programme's intended learning outcomes below are described at the Bachelor with Honours level (Level 6).

On successful completion of this programme, you will be expected to:

L01 Demonstrate knowledge and critical understanding of the foundational principles, technologies, and applications of artificial intelligence and their interrelationships in both theoretical and practical contexts.

L02 Demonstrate an in-depth understanding of various mathematical and statistical methods and their application for analysis in the field of artificial intelligence.

- L03** Apply programming skills in a suitable programming environment to develop programs and applications.
- L04** Apply analytical and problem-solving skills to develop artificial intelligence solutions for real-world applications both collaboratively and independently.
- L05** Critically analyse data to effectively guide the development of deep learning, machine learning, and natural language models.
- L06** Critically analyse algorithms used in artificial intelligence, including their structure, functionality, and potential applications.
- L07** Evaluate rules, regulations, and best practices in data protection and cyber security with regard to their importance in the development and application of artificial intelligence solutions.
- L08** Critically evaluate the role and impact of current developments in artificial intelligence, including the societal, legal and ethical implications.
- L09** Conduct independent research using suitable methodologies to address AI-related challenges and communicate findings to groups with different levels of expertise.

The Structure of the Programme

The BSc (Hons) Artificial Intelligence programme is offered as a 3-year full-time programme or in part-time mode over a 4 or 6-year period.

The programme is divided into modules which include both compulsory and elective modules with a weighting of 15 credits each and a thesis with a weighting of 30 credits. All modules in the programme are assigned to one of three levels (L4/L5/L6) which reflect the depth of learning required in the relevant level and year of study.

To achieve a full-honours award, you need to complete modules with a combined weight of 360 credits, including the final thesis.

Table 1: Structure of the Programme

Module Code	Module Name	Level	Credit	Compulsory/ Elective
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Year 1				
LIBFEXDLBDSEAIS1	Introduction to Artificial Intelligence	4	15	C
LIBFEXDLBDSIPWP	Introduction to Programming with Python	4	15	C
LIBFEXDLBDSMFC	Mathematics: Analysis	4	15	C
LIBFEXDLBDSSPDS-01	Statistics: Probability and Descriptive Statistics	4	15	C
LIBFOARPDLCSCW	Collaborative Work	4	15	C
LIBFEXDLBCSIDPITS	Fundamentals of Data Protection and Cyber Security	4	15	C
LIBFEXDLBDSMFLA	Mathematics: Linear Algebra	4	15	C
LIBFEXDLBDSSIS	Statistics - Inferential Statistics	4	15	C
Year 2				
LIBFAWDLBIAWITT	Introduction to Academic Work for IT and Technology	5	15	C
LIBFPDLBDSOOFPP	Object Oriented and Functional Programming in Python	4	15	C
LIBFWACSDLBDSMLSL	Machine Learning - Supervised Learning	5	15	C
LIBFWACSDLBDSMLUSL	Machine Learning - Unsupervised Learning and Feature Engineering	5	15	C
LIBFAWDLBAIINLP	Introduction to NLP	5	15	C
LIBFOPRRPAECPT	Project: AI Excellence with Creative Prompting Techniques	5	15	C
Elective from Group A			15	E
Elective from Group A			15	E

Year 3				
LIBFWAWADLBDSNNDL	Neural Nets and Deep Learning	6	15	C
LIBFWAREDLBDSSECDS	Seminar: Ethical Considerations in Data Science	6	15	C
Elective from Group B			15	E
Elective from Group B			15	E
Elective from Group C			15	E
Elective from Group C			15	E
LIBFBTDLBBT	Bachelor Thesis	6	30	C

Table 2: List of Electives

Module Code	Module Name	Level	Credit	Subject Area*
Electives A				
LIBFIRPFSINTER1	Internship I ¹	5	15	n/a
LIBFIRPFSINTER2	Internship II ¹	5	15	n/a
LIBFWACSDLBCSIDM	Intercultural and Ethical Decision-Making	5	15	n/a
LIBFOPRRPDLBAIPEAI	Project: Edge AI	5	15	n/a
LIBFAWDLBDSSESSE	Data Science Software Engineering	5	15	n/a
LIBFWACSDLBMIUEX1_E	User Experience	5	15	n/a
LIBFAWDLBROIR_E	Introduction to Robotics	5	15	n/a

¹ Check eligibility before booking module.

LIBFAWDLBAIICV	Introduction to Computer Vision	5	15	n/a
Electives B				
LIBFWAWAADA	Advanced Data Analysis	6	15	D&BI
LIBFWAPRPDA	Project: Data Analysis	6	15	D&BI
LIBFWAWADLBCSITSM-01	IT Service Management	6	15	ITPM
LIBFWAPRDLBCSPITSM	Project: IT Service Management	6	15	ITPM
LIBFEXDLBDSEIMB1	International Marketing	4	15	IM&S
LIBFWAWADLBMSM1-01_E	Online Marketing	6	15	IM&S
LIBFWAWADLBDESESCM1	Supply Chain Management I	6	15	SCM
LIBFWAWADLBDESESCM2	Supply Chain Management II	6	15	SCM
LIBFPDLBSEPCP_E	Cloud Programming	6	15	CPDE
LIBFWAWADLBDSCE	Cloud Computing	6	15	CPDE
LIBFWAWADLBDESEAR1	Production Engineering	6	15	A&R
LIBFWAWADLBDESEAR2	Automation and Robotics	6	15	A&R
Electives C				
LIBFWAWADLBCSEBI1	Business Intelligence	6	15	D&BI
LIBFWAPRDLBCSEBI2	Project: Business Intelligence	6	15	D&BI
LIBFWAWADLBCSEITPAM1	IT Project Management	6	15	ITPM
LIBFWAWAIAMG_E	IT Architecture Management	6	15	ITPM
LIBFWAWADLBDESEAS1	Applied Sales I	6	15	IM&S
LIBFWAWADLBDESEAS2	Applied Sales II	6	15	IM&S

LIBFWAWADLBINGPE_E	Product Development in Industry 4.0	6	15	SCM
LIBFWAPRDLBIEPPS	Project: Smart Product Solutions	6	15	SCM
LIBFWAWADE	Data Engineering	6	15	CPDE
LIBFPPDE	Project: Data Engineering	6	15	CPDE
LIBFWAWADLBDSEAD1	Self-Driving Vehicles	6	15	A&R
LIBFWAREDLDSEAD2	Seminar: Current Topics and Trends in Self-Driving Technology	6	15	A&R

*

D&BI = Data and Business Intelligence	ITPM = IT and Project Management	IM&S = International Marketing and Sales
SCM = Supply Chain Management and Industry 4.0	CPDE = Cloud Computing and Data Engineering	A&R = Automation and Robotics

Teaching, Learning & Assessment

Information about teaching, learning and assessment can be found in the Teaching, Learning and Assessment Strategy.

Our programmes are designed to:

- integrate theory with practice,
- develop your ability to critique and challenge models and theoretical frameworks,
- stimulate debate, discussion, and research,
- foster a variety of academic skills,
- be accessible and inclusive, and
- develop global citizens.

You are expected to undertake a considerable amount of independent study, including reading, industry-related research, and personal reflection.

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Teaching Formats

The programme may be offered in various teaching formats, for example online or via blended learning.

You will have access to both asynchronous and synchronous teaching formats.

Via the Course Feed in the virtual learning environment, myCampus, you will be able to contact the module tutor in a flexible and accessible way.

This is also where Intensive Live Sessions are conducted synchronously with video-based elements. They serve to answer students' individual questions as well as to allow for group discussions.

Additionally, Learning Sprints² will offer a seven-week intense learning experience in which the lecturers guide students through the learning material in a very structured manner, with the goal of successfully preparing them to take the final assessment at the end. During this time, frequent synchronous online meetings are held, offering keynote speeches and interactive tasks.

Both the Intensive Live Sessions and Learning Sprints are recorded to further assist asynchronous learning.

In the blended format, teaching and learning combines online and in-person learning in a *flipped* classroom concept. Traditional classroom activities like lectures are conducted online via the learning platform, while in-class time is used for interactive work. On-campus elements like study groups and library study time complement this approach.

Learning Resources

You will have access to a wide range of resources, which may include the following:

- myCampus: This Moodle-based central information and digital learning platform is organized based on programmes and modules. On the respective module pages in myCampus, you can access all study materials (e.g., course books (i.e., text books), reading lists, practice exams, and video galleries) as well as the links to all related resources and databases (e.g., MS Teams, links to the library for further reading, contact details of lecturers, links to the booking tool for online exams, and the Turnitin submissions page). In the blended model you have

² Offered only when the minimum number of participants is reached.

access to the same learning platform, with slight adaptations made to accommodate, for example, differences in study sequence.

- Learnhub App: You can access your learning materials in a digital app and have all your notes and highlights synchronised. The app supports different learning formats, such as reading and annotating course books, using different colour codes, assessing knowledge with interactive self-tests, or watching the latest videos of the current module.
- Our comprehensive online library is aligned with the study content and kept up to date. Compulsory and further reading is mentioned in the course and module descriptions available for the students and aims to provide them with unlimited access.

Assessment & Feedback

Regulations relating to progression and assessment, including information on late submissions, are as set out in The London Institute of Banking & Finance's General and Academic Regulations for Students.

Assessment strategies follow The London Institute of Banking & Finance's Higher Education Accessible and Inclusive Learning Policy.

Assessment consists of both formative and summative approaches, and feedback and feedforward are provided as outlined in the London Institute of Banking & Finance's Higher Education Assessing Learning & Feedback Policy. The different types of assessment used by the London Institute of Banking & Finance are described in the Higher Education Types of Summative Assessment Guidance.

Module assessment methods are included in Module Handbooks which are made available in myCampus.

Credit and Award

Credit Framework

The BSc (Hons) Artificial Intelligence programme is made up of 360 FHEQ credits. One credit approximates to 10 student effort hours; therefore, the total course requires an average of 3,600 hours of effort. Typically, one ECTS credit is the equivalent to two UK credits, although this may vary depending on the individual European state's requirements.

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Award

On successful completion of the full programme, you will be awarded the

Bachelor's Honours Degree 360 credits, of which at least 90 credits must be at Level 6 and 30 credits must be obtained through the Bachelor Thesis

Regulations

The London Institute of Banking & Finance's General and Academic Regulations for Students detail

- regulations governing the award of credit,
- how grades for awards are granted,
- time limits for completion of programmes of study
- capping of marks and regulations relating to the resitting of assessment components
- academic misconduct e.g., malpractice, and
- accreditation of prior learning (APL).

Exit Awards

In line with The London Institute of Banking & Finance's General and Academic Regulations for Students, the following applies:

Bachelor's Degree (non-Honours)	minimum of 300 credits, of which at least 60 credits must be at Level 6
Diploma of Higher Education	minimum of 240 credits, of which at least 90 credits must be at Level 5
Certificate of Higher Education	minimum of 120 credits, of which at least 90 credits must be at Level 4

Note: The London Institute of Banking & Finance does not award interim qualifications. For example, a student registered for the bachelor's degree will not automatically be awarded a Diploma or Certificate of Higher Education on completion of the required number of credits.

Professional Recognition

Credits gained via accreditation of prior learning (APL) into our awards may mean that students will not get certain exemptions from other institutions' higher education or professional awards that may recognise our programmes.

Criteria for Admission

All applications will be considered holistically and offers will be based on qualifications, subjects studied, any relevant work experience and personal statements demonstrating a desire to work in the relevant industry.

Students must be able to satisfy the general admissions criteria of The London Institute of Banking & Finance. Entry requirements for all proposed undergraduate programmes are:

- 2 A Levels, and
- GCSE Maths 4 (C in old grading system) or above, and
- GCSE English 4 (C in old grading system) or above, and
- English language competence equivalent to IELTS 6.0 with no less than 5.5 in any element. An online English test is offered (SPEEX) if IELTS not available.

Overseas qualifications may be accepted and will be subject to evidence of equivalency normally verified through ECCTIS (UK ENIC).

If applicants do not satisfy these criteria, they can communicate with the LIBF Admissions Team and discuss entry requirements.

Suitable work experience may be accepted as an alternative on an individual basis.

Mature students who do not meet the entry criteria may be eligible to enrol under the LIBF mature student process. Applicants should contact a member of the Admissions Team if they do not meet the criteria.

Benchmarks

External

- QAA UK Quality Code, including:
 - Subject Benchmark Statement for Computing (2022)
 - Level 6 descriptors in the Framework for Higher Education Qualifications in England, Wales and Northern Ireland
 - Higher Education Credit Framework for England

Internal

- The London Institute of Banking & Finance Code of Practice
- The London Institute of Banking & Finance General and Academic Regulations for Students

In addition, research with the relevant sector has been undertaken to ensure that the learning outcomes of the programme address identified skills and knowledge gaps.

Links

[Teaching, Learning and Assessment Strategy](#)

[The London Institute of Banking & Finance's General and Academic Regulations for Students](#)

[The London Institute of Banking & Finance's Code of Practice for Quality Assurance, Chapter 3: Accreditation of Prior Learning \(APL\)](#)

[Accessible and Inclusive Learning Policy](#)

[Types of Summative Assessment](#)

[Higher Education Assessing Learning & Feedback Policy](#)

[Subject Benchmark Statement for Computing](#)

[Framework for Higher Education Qualifications in England, Wales and Northern Ireland](#)

[Higher Education Credit Framework for England](#)

Curriculum Map of Modules Against Intended Learning Outcomes of the Programme

	Module Code	Module Name	Intended Learning Outcomes of the Programme										
			LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9		
Year 1	LIBFEXDLBDSEAIS1	Introduction to Artificial Intelligence	X					X					
	LIBFEXDLBDSIPWP	Introduction to Programming with Python	X		X				X				
	LIBFEXDLBDSMFC	Mathematics: Analysis	X	X									
	LIBFEXDLBDSSPDS-01	Statistics: Probability and Descriptive Statistics	X	X									
	LIBFOARPDLCSCW	Collaborative Work				X							
	LIBFEXDLBCSIDPITS	Fundamentals of Data Protection and Cyber Security	X							X	X		
	LIBFEXDLBDSMFLA	Mathematics: Linear Algebra	X	X									
	LIBFEXDLBDSSIS	Statistics - Inferential Statistics	X	X									
Year 2	LIBFAWDLBIAWITT	Introduction to Academic Work for IT and Technology											X
	LIBFPDLBDSOOFPP	Object Oriented and Functional Programming in Python	X		X	X			X				
	LIBFWACSDLBDSMLSL	Machine Learning - Supervised Learning	X	X	X	X	X	X	X				
	LIBFWACSDLBDSMLUSL	Machine Learning - Unsupervised Learning and Feature Engineering	X	X	X	X	X	X	X			X	
	LIBFAWDLBAIINLP	Introduction to NLP	X	X	X	X	X	X	X			X	
	LIBFOPRRPAECPT	Project: AI Excellence with Creative Prompting Techniques	X			X			X			X	
	Elective from Group A												
	Elective from Group A												
Year 3	LIBFWAWADLBDSNNDL	Neural Nets and Deep Learning	X	X	X	X	X	X	X				

LIBFWAREDLBDSSECDS	Seminar: Ethical Considerations in Data Science	X			X			X	X	X
Elective from Group B										
Elective from Group B										
Elective from Group C										
Elective from Group C										
LIBFBTDLBBT	Bachelor Thesis	X	X	X	X		X		X	X

This table shows the distribution of the programme's intended learning outcomes (as specified in the programme specification) across the programme modules.

Mapping of Teaching Formats and Types of Media Used in the Programme Modules

	Module Code	Module Name	Type of Assessment ¹	Teaching Formats ²			Types of Media ³					
				CF	ILSE	LS ⁴	CB	RL	OT	RB	V	PE
Year 1	LIBFEXDLBDSEAIS1	Introduction to Artificial Intelligence	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBDSIPWP	Introduction to Programming with Python	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBDSMFC	Mathematics: Analysis	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBDSSPDS-01	Statistics - Probability and Descriptive Statistics	EX	X	X	X	X	X	X		X	X
	LIBFOARPDLCSCW	Collaborative Work	OARP	X	X	X	X	X	X		X	
	LIBFEXDLBCSIDPITS	Fundamentals of Data Protection and Cyber Security	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBDSMFLA	Mathematics: Linear Algebra	EX	X	X	X	X	X	X		X	X
	LIBFEXDLBDSSIS	Statistics - Inferential Statistics	EX	X	X	X	X	X	X		X	X
Year 2	LIBFAWDLBIAWITT	Introduction to Academic Work for IT and Technology	AW	X	X	X	X	X	X		X	
	LIBFPDLBDSOOFPP	Object Oriented and Functional Programming in Python	P	X	X	X		X				
	LIBFWACSDLBDMSLSL	Machine Learning - Supervised Learning	WACS	X	X	X	X	X	X		X	

Year 3	LIBFWACSDLBDSMLUSL	Machine Learning - Unsupervised Learning and Feature Engineering	WACS	X	X	X	X	X	X		X		
	LIBFAWDLBAIINLP	Introduction to NLP	AW	X	X	X	X	X	X		X		
	LIBFOPRRPAECPT	Project: AI Excellence with Creative Prompting Techniques	OPRRP	X	X	X		X					
	Elective from Group A												
	Elective from Group A												
	LIBFWAWADLBDSNNDL	Neural Nets and Deep Learning	WAWA	X	X	X	X	X	X			X	
	LIBFWAREDLBDSSECDL	Seminar: Ethical Considerations in Data Science	WARE	X	X	X							
	Elective from Group B												
	Elective from Group B												
	Elective from Group C												
	Elective from Group C												
	LIBFBTDLBBT	Bachelor Thesis	BT										
	This table shows the distribution of teaching formats and types of media used in the programme modules.												
	¹ EX = Exam, WAWA = Written assignment, WACS = Case study, WARE = Research essay, WAPR = Project report, P = Portfolio, AW = Advanced Workbook, OARP = Oral Assignment + Reflection Paper, OPRRP = Oral Project Report + Reflection Paper, BT/MT = Bachelor / Master Thesis ² CF = Course Feed, ILSE = Intensive Live Sessions, LS = Learning Sprints ³ CB = Course Book, RL = Reading List, OT = Online Tests, RB = Review Book, V = Videos, PE = Practice Exams ⁴ Offered only when the minimum number of participants is reached.												